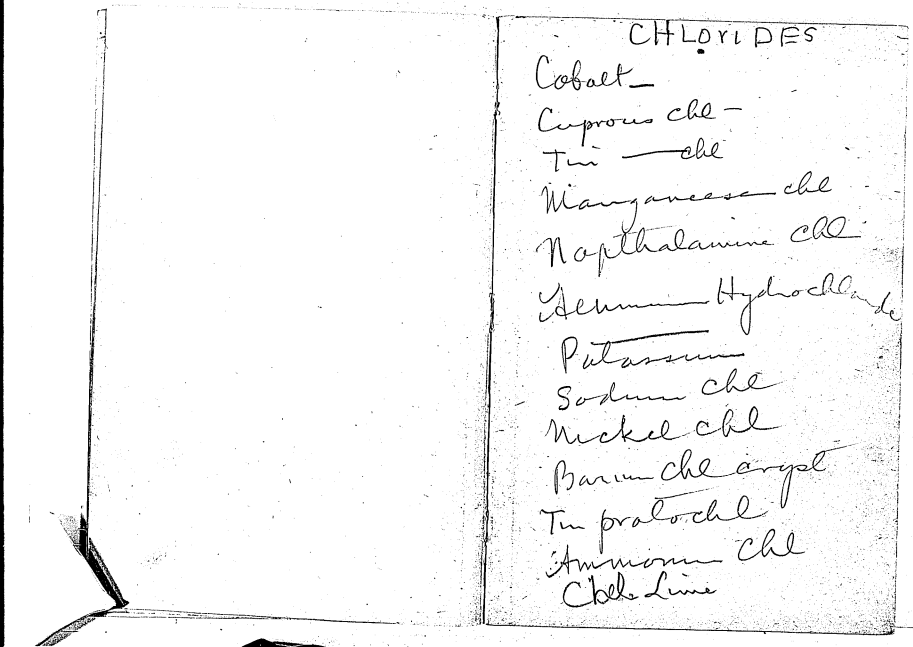
Notebook, N-87-03-00

This undated notebook is a continuation of N-87-01-27. It was used by Edison for notes on squirted filament experiments, nos. 143-166. Also included are several lists of chemicals, which precede and are possibly related to the filament experiments. The pages are unnumbered, and the book has been used in both directions. Approximately 105 pages have been used.



CHLORIDES

Cobalt_

Cuprous chl –

Tin —— chl

Manganeese chl

Napthalamine chl

Ammm Hydrochlade

Potassium

Sodium chl

Nickel chl

Barium chl crystl

Tin protochl

Ammonium Chl

Chl. Lime

Calcium chlorid
Chromium sesquichlorid
Nickel chl—
Copper chl—
Cad chl fused
Manganese chl

Oxides

Fe Sesqui ox

Cobalt

Barium Hydroxide

Bismuth Ox

Stibium Ox

Antimonic acid

Aluminum Ox

Litharge - Pb Ox

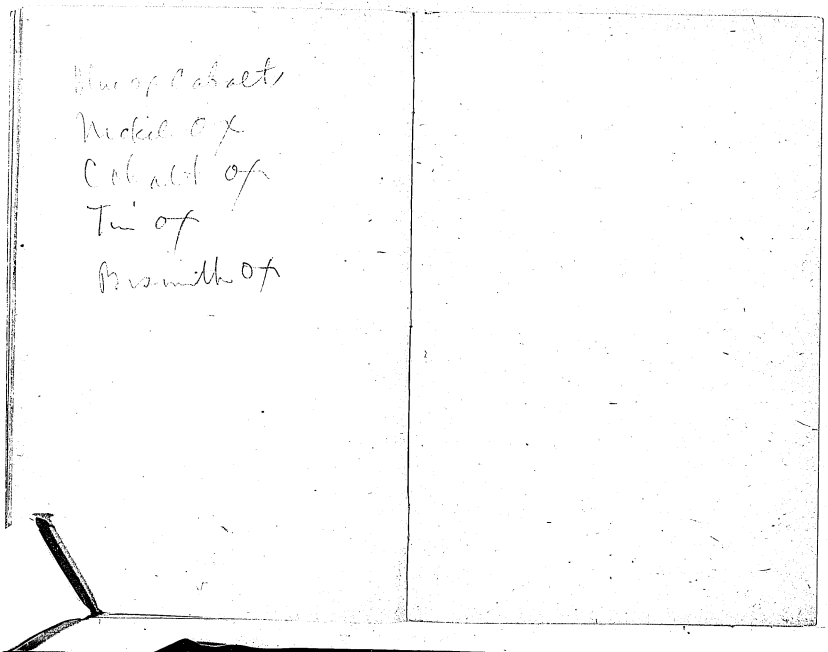
Peroxide Lead

Silver Ox

Cadmium Ox

Ferric Ox

Chromium Ox


Blue of Cobalt
Nickel ox
Cobalt ox
Tin ox
Bismuth ox

Nitrates

Potassium

Sodium

Nitrite Potash

Magnesium Nitrate

Mercury Nitrate

Lead "

Aluminum "

Bismuth Subnit

Zinc Nitrate

Barium "

Bismuth Nitrate Crystal

Ammonium "

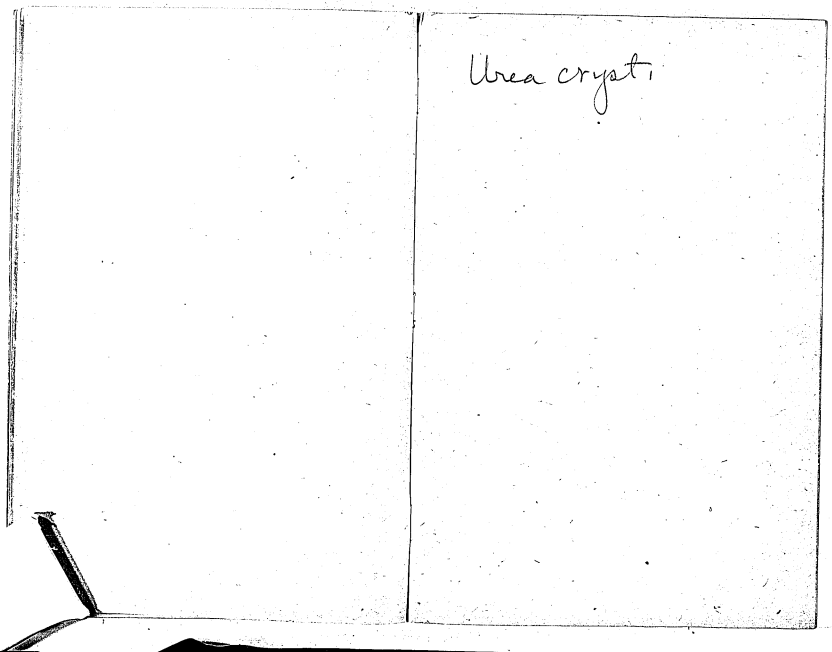
Sodium "

Cadmium "

Potassium

Cobalt

Calcium


Urea crystals

Sulphates

Sulphur

Barium

Ammonium

Magnesium

Bisulpalosh

Sodium Bisulph

Manganese Sulphate

Aluminum Sulphate

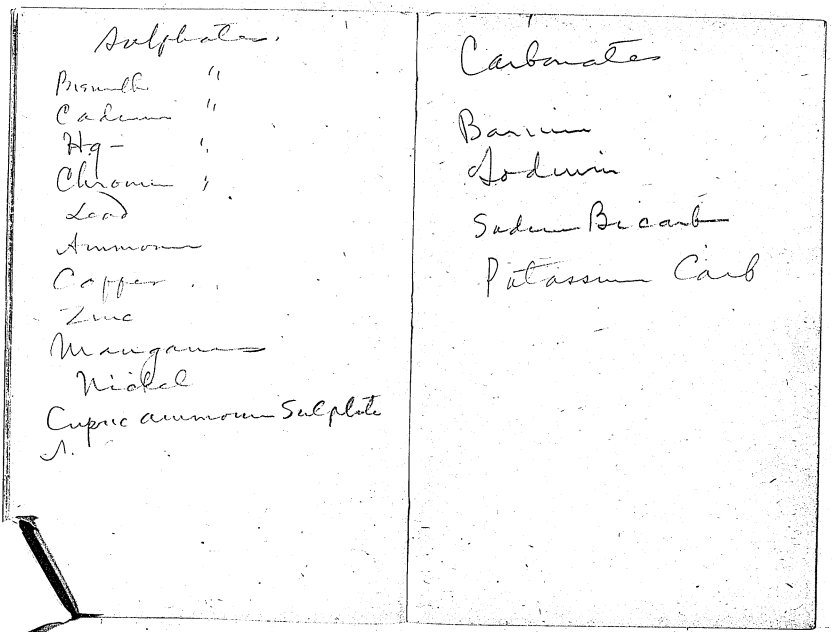
~~Aluminum~~ Sodium Bisulphate

Sulphite Iron

Palish Sulphate

Barium "

Magnesium "


Sulphates
Bismuth
Cadmium
Hg
Chromium
Lead
Ammonium
Copper
Zinc
Manganese
Nickel
Cupric ammonium Sulphate
N.
Carbonates
Barium
Sodium
Sodium Bicarb
Potassium Carb

Borate

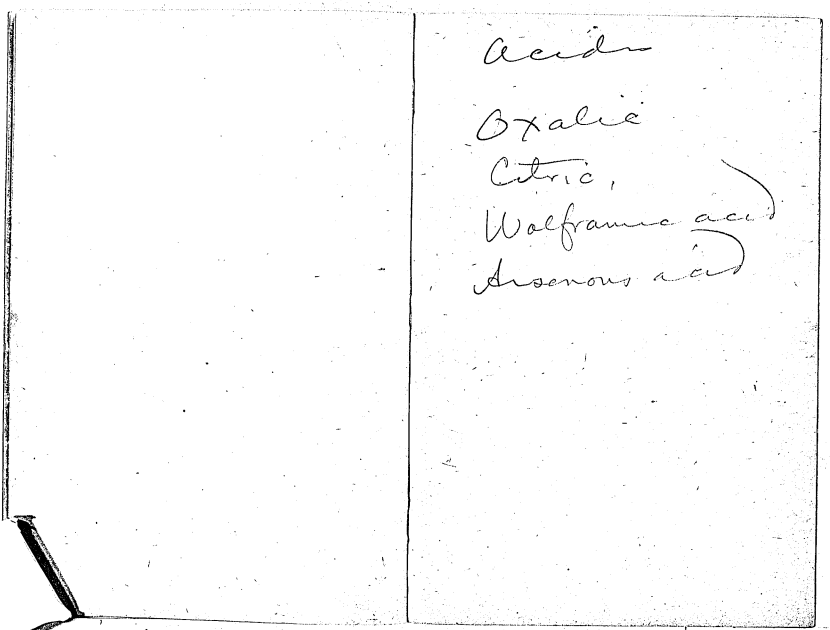
Sodium Biborate

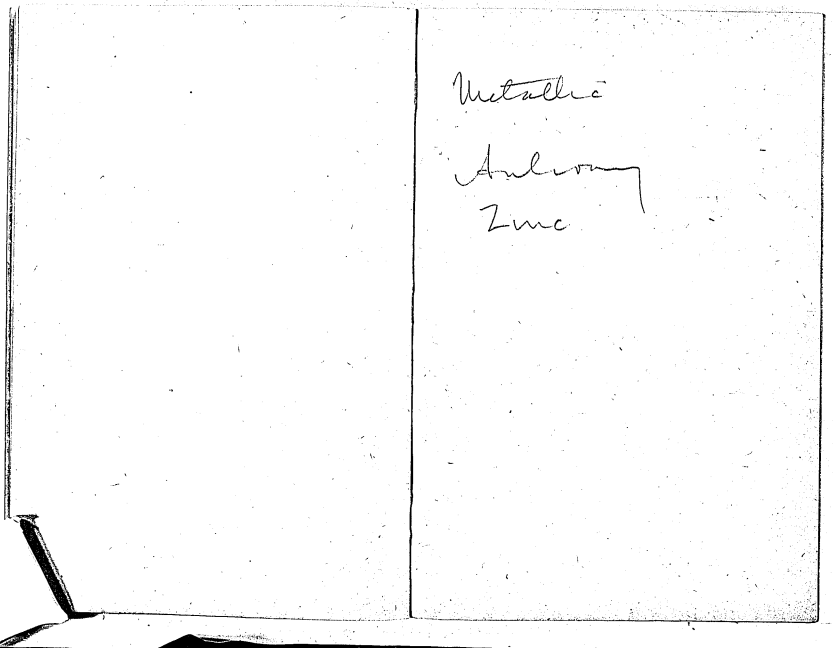
Borax

Palash Borate,

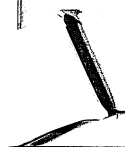
Lead Borate,

Magnesium Borate -


Acids
Oxalic
Citric,
Wolframic acid
Arsenous acid


Metallic
Antimony
Zinc

Microcosmic salt.



Sulphides

Antimony Sulphide

Sodium Sulphide

Lead Sulphide

Antimony Sulphide "

Cuprous "

Hg

Barium

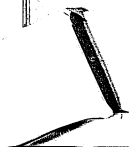
Antimony

Hg-blk —

Calcium

Potash —

Lead —



Citrate Ammonia

Benzoic Aluminum

Ammonia Oxalate

Potash Oxalate

Acetate Soda

Aluminum acetate

Sodium Fe Tartrate

Barium acetate

Copper Sub acetate

Oxalate Sodium

Ammonium Bi Oxalate

Manganese Oxalic

acetate Copper

Mercury Benzoate

acid poldine Tartrate

Calcium Oxalate

Celestite Iodide
Nickel oxalate
Aluminum palmitate
Barium Rosinate
Strontium oxalate
Strontium Rosinate
Cerium Iron
acetate lead
acetate Nickel gamboge
Barium oxalate
acetate Potash
acetate Iron
Calcium phenolate
Lead Oxalate
~~Chrom~~ Sodium oxalate,

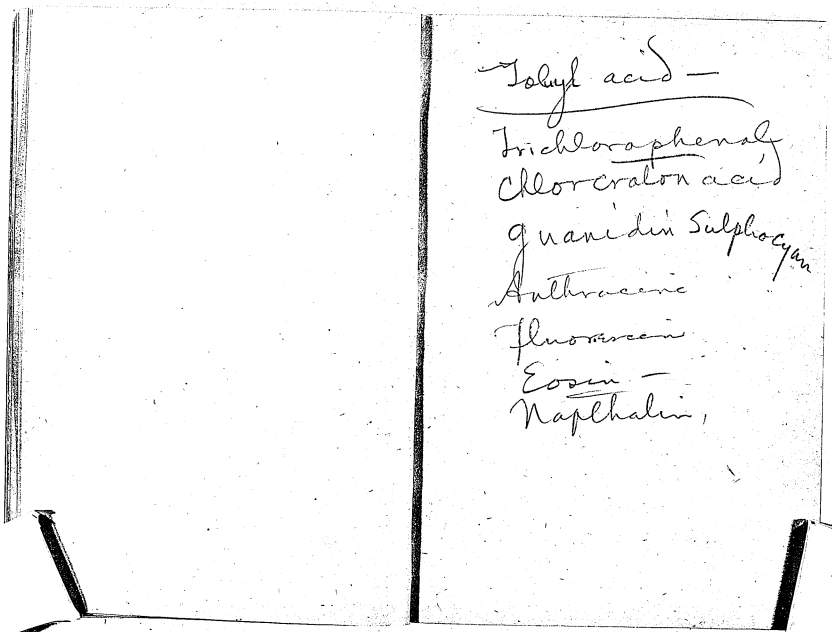
Chromate

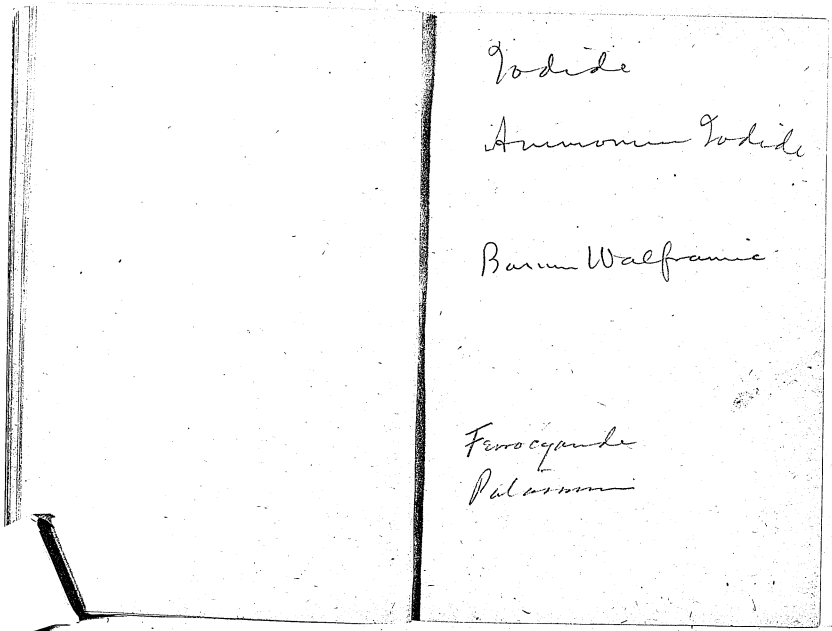
Calcium Chrom
Lead "
Potassium "
Cobalt, "
Zinc "
Lead "
Copper "
Cuprous "
Strontium "
Barium "
ammonium Bichrom

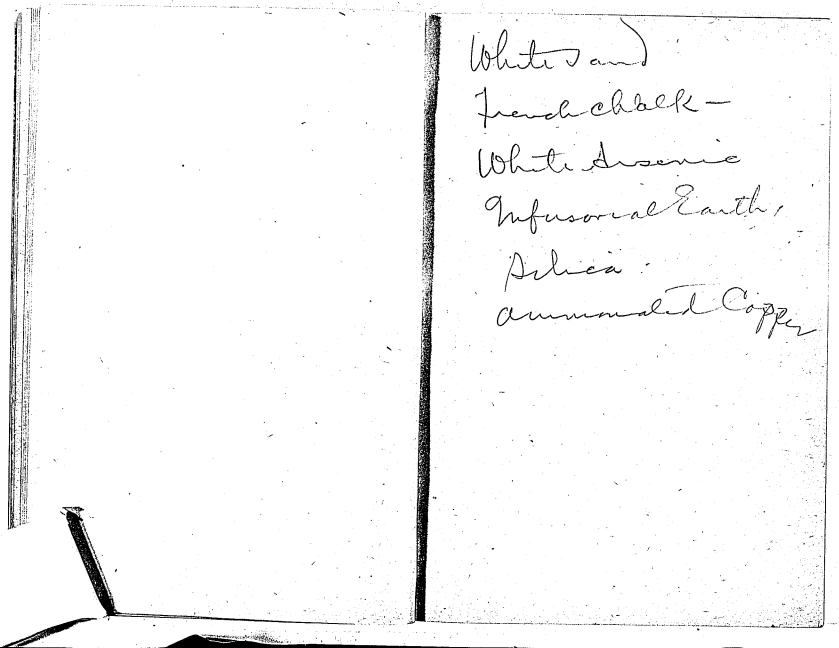
Sulphites

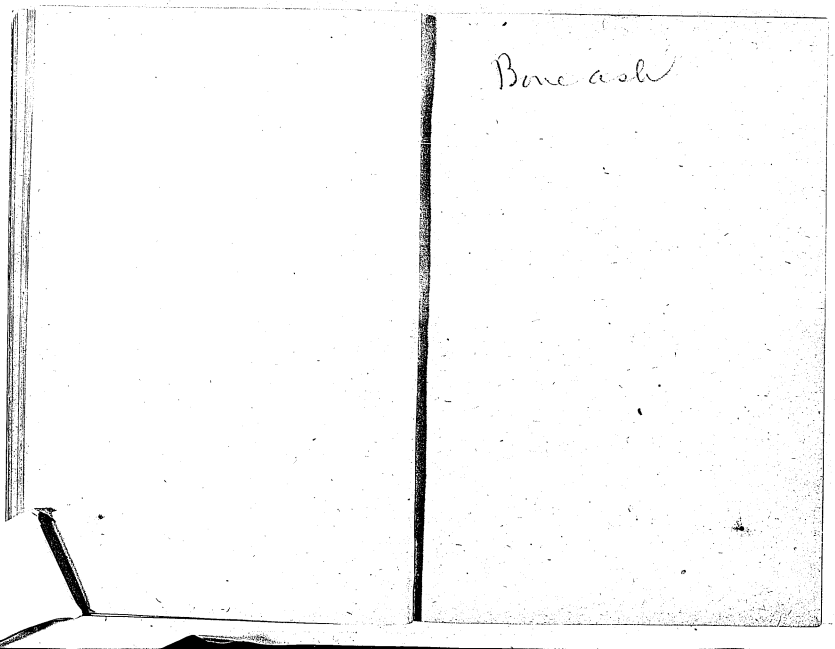
Sodium Hyposulphite

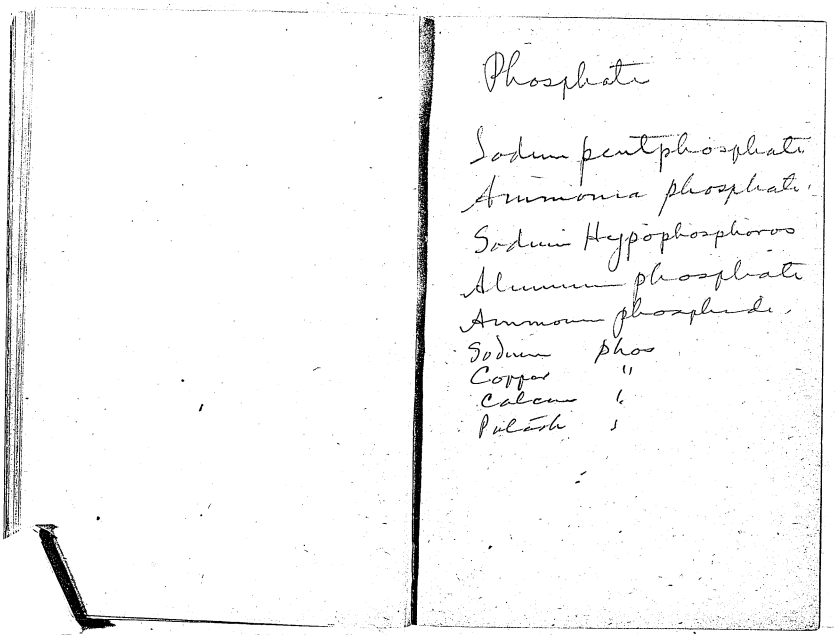
Magnesium Sulphite.


Tolyl acid —
Trichlorophenol
Chlorcraton acid
guanidin Sulphocyan
Anthracene
Fluorescein
Eosin —
Naphthalin,


Iodide
Ammonium Iodide
Barium Wolframic
Ferrocyanide
Palassium

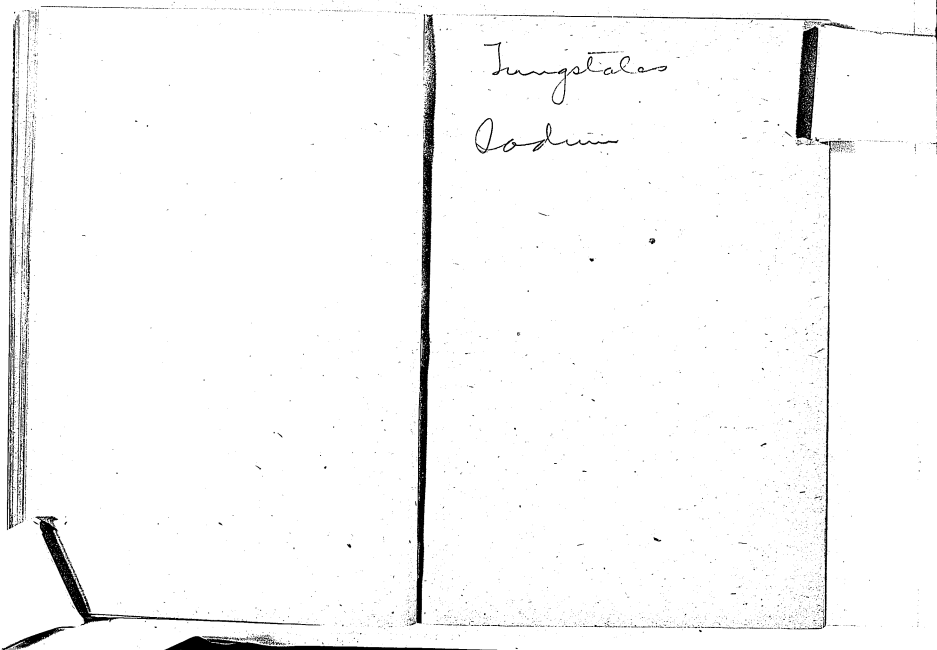

White sand
French chalk —
White Arsenic
Infusorial Earth,
Silica
ammoniated Copper

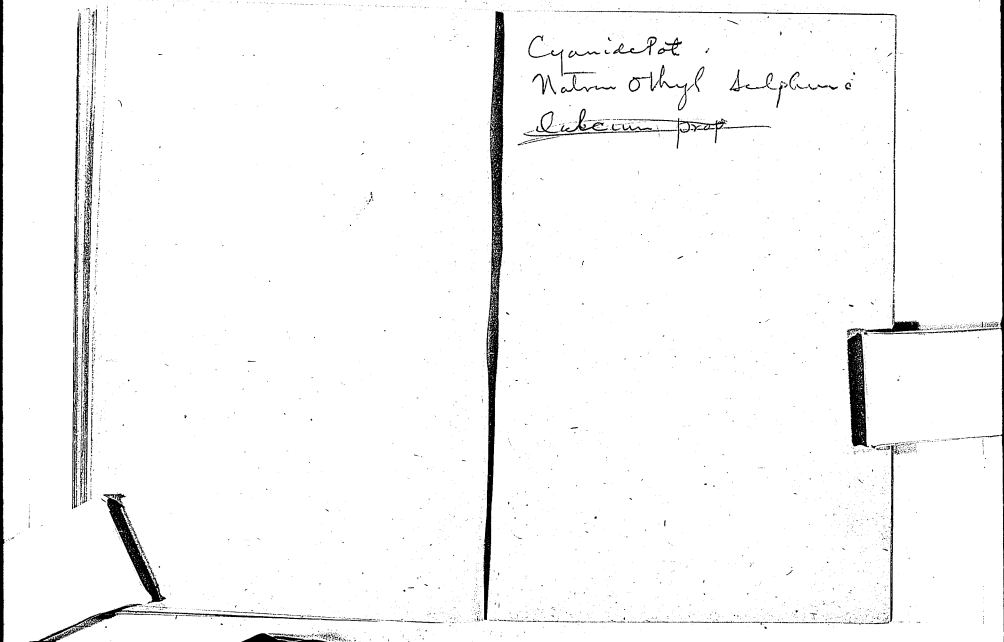

Bone ash



Phosphates

Sodium pentaphosphate
Ammonia phosphate
Sodium Hypophosphorous
Aluminum phosphate
Ammonium phosphate
Sodium phos
Copper "
Calcium "
Potash "


Fungstales
Sadum


Cyanide Pot.
Natrum Ethyl Sulphuric
Lubricum prep

No 1

Dropped. Aylsworth fecit

No 1 Twice in 27 Slight
" 33 Dept

No 2 Single dup No 33 Dup

No 3 No 27 Slight one dup

No 4 1st 27 Slight
2nd 33 — dupt

Chems that when melted appear to dissolve NO2 (Mendumblk) —

Amidophenol-para —
Beta Napthol.
Brucin
Toluidin
Ethylene Iodide
Benz amide — good
Glycocin
Benzaldehyde para good
Hydrochenon "
Reorcin

Sulphocarbanilid - dis 20
Tolnylendiamine - p6ly
Piperedene Hydrochlor queer
Tolnylsaure p6ly
Naphthalamin good solvent

Remarks

Ammon Sulphate will p6ly separate alone very hot = dense Carbon scarcely any swell.

Chrysanilin has NO_2 but
Unless it can be Catzd
it squirted alone

Ptyalin
~~Pyridazin~~ squirt alone
Carbanthracy

Quinoline sulph
Melts, puffs - very dense
Carbon - binder

Anthrachinon ditto
but not so shiny

Lamp Experiment
Continues last Number
142 =

143 No 15
3000 Cbt
1000 Phenanthrene,
Squeeze bad – we got too
much heat in puffed it
but let it Coal + got
few Good ones towards
end to test. as I think
they will give a Carbon like
43 – They have not a dark
chrome or rain fil But metallic
like I put them in To Carb To
Ice surface, I think

That these fels can be made by finding a better solvent than Mal + Ether, had to use both in mixture as one alone wildnt dissolve much as it was there was lot undvalued stuff got in → perhaps half mal or Ether alone will dissolve Enough, the heat should be low + gradual to stop forming gases which will make precanteur also the powder should be dried in oven — E

144 No 16

3000 Cbf. and solution of Sgrium in Bengal wormwood Came as I do alcohol- powder - took long heat finally came good but not shiny - die bad not puffed - good and in but swells terrible in oven. so I put they wont Cake -

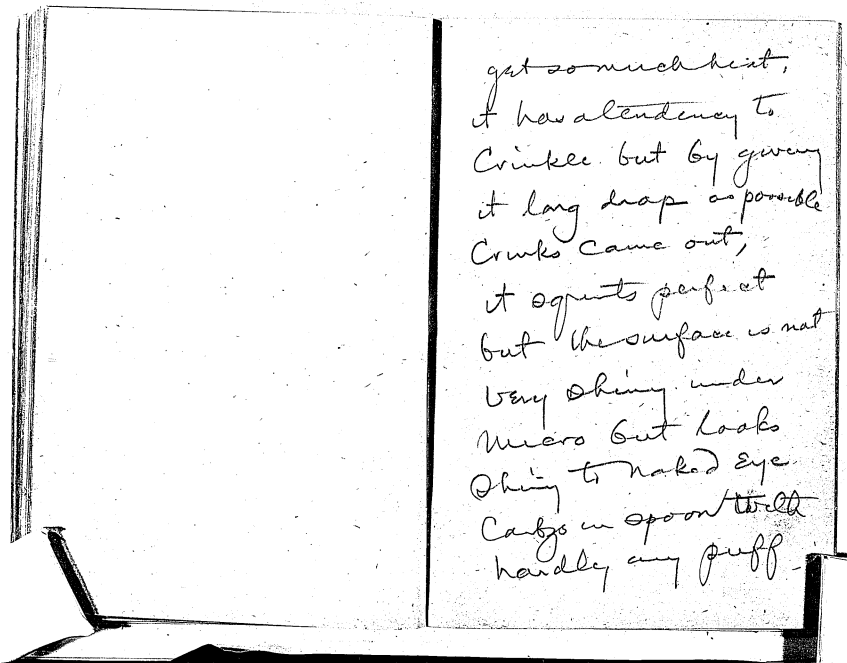
[illegible] badly surface
post-attack together.
so can hardly separate
any — they die ng
regularly

145 –

3 grms Carbonate
3 Salicylate Calcium
2 grammes Chloral Hydrate

2 first used 3 of CBT
3 of Salica + 1 of
Chloral Hy but on
opening dry powder didnt
seem to fused so I
added to dry powder
a fresh lot of 1 gm
Chloral Hy + Alcohol

The result was when got it down it got sticky & went to wgat had to sheet it over flame for ~~#~~ 20 minutes & then took 1/2 hour in Mortar before got powder requires considerable heat to ~~b~~grind but broke short die & had use long die this might have made differ as long die would not



get so much heat,
it has a tendency to
crinkle but by giving
it long drop as possible
cranks came out,
it squints perfect
but the surface is not
very shiny under
micro but looks
shiny to naked eye
Can go in oven to dry
handle any puff.

The ash is very heavy
seems to have ash
than Carbon —
Had I added 1½ gm
Chl Hg at first with
Sali Ca don't think it
would have ingalled
pbly 3 Carbonate 2 of
Sali Ca + 1 Chloral
Gz OK = End on notes

146 –

3 grms Carbonate
2 grms Salycilate Calcium
1 gram Chloral Hydrate

Went to powder but it had tendency to be sticky did not triturate thoroughly after 20 mins got it to powder but not fine – used short die 5½ 1/1000 surface not good shows with too much heat puff bad had let cool down then squirted fine but there is a great tendency

to crinkle but 3ft more drop would correct that. If surface was only shiny they wld be ok, very little puff in spoon. End on not dead shiny

146 –

Shrunk together [illegible] to bad but fils ave rough and all pitted, [illegible] would do perhaps ½ or ¼ gm SalyCa would do

147

Shiny but shrunk together & badly shrunk –

147 –

3 Carbamide
1 SalicylAld Calam
1 Chloral Hyd

goes to powder but shows tendency to ball in fact it balls some & its impossible to get it to a fine powder hence in ogmenting it tends to crumble & also except very hot it shows lumps fils ogment perfect Shine first class little more puff in spoon

Uran 146

Thunk 750 chloral will do
must get to fine powder

End on very shiny perfect

148 –

Whole lot gathered, shiny but collapsed in center

148 –

3 Carbt
1 Saly Co
750 Milgm Chloral Ht

goes to powder ok no tendency to stick, ground to fine red powder – after getting it very dry put powder on paper with beaker over it to wait for freddy who has gone to dinner 1/2 hour under paper, we put it in press + heat but while perfect shiny

it has those Lumps
We heat till it puffs a
little & let it cool of
then reheat gently —
it squirts easy enough
but its Lumpy & great
tendency to Crinkle
surface perfect shiny
& waved be very troublesome
to make this go —

~~Urine~~ Notes

3 Cbt
1 Lactate Calcium
750 mg. Chloral Hydrate

No good sputum
rough - liquid comes
out at die + deposit
in fil as sputum files
rough brittle, Neg
Albumin also Comes out

~~149~~ No test

3 Cbt

1 Sulpho Carbolate Magnesia

750 Mg Chloral Hy.

Goes Co powder good

not unleast sticky

powder ND + fine

as reg Cbt -

When we come to agit

its full of water

& Coale ~~the~~ what's

remaining of mg at

Reproduced + dried
in paper over flame
till Chitty came
off then put back
in press -
its rig - rough +
brittle, may be fm
wand of Chitt
which went off in
drying

149

all shrink together but
fils good – oxidys to point
if previously dried think
they would curdy ok
When fils are all close
together they are badly
wetted but when a fil
is seperate its rounded
good – showing that
the chloral must be
drawn off – as the fils
opened & a draught
given to clear away
the Chloby

149

Prelim boat
1 + 2
in chloy and frogs together
bad surfaces
air all cracked

3 cbt
1 Salicylate Magnesia
750 – Chloralby –

Wouldnt go to powder
but while powdery I
forced it into a very
stiff unguent by pestle
+ couldnt finger it except
over flame, ~~[illegible]~~
with very little heat to
give shiny surface
Ungt is perfect shine
perfect but fils not

all perfect, they stuck together on finger but by using splint + letting them go on it long + put to dry formed loop without sticking =

The Compound of Sali Mg + Chl Hx is sticky so I am going make one of 5-00 mg Chl Hy + try dry it

Stubble ground shows
Head of Sandal with wild
oat &c.

150 — Predubof
3 4 4

3 Carbonate aur alk (reacted)
1 Salicylate Magnesia rehrenus (natural
500 mg Chloral Hyd 50 cm) flow cum
aut (stained

Went to powder but only
after a time as it got
Sticky & lumpy — the
powder was not fine but
fairly so showing
under Micro. balls.
used but little heat
Agents perfect fields
bright red shiny
very little puffiness poor
plenty ash glassy

end in - there are speco
n ful however -
altogether this ful is
best yet of cash ful -
think 400 mg Chloral
would be about right.
fils tough -
dont dredge when put
right in flame instantly
like Ca Sali - &
apparently Mg more
intimately mixed with
Carbon -

Wanted.

151 prelim box 5+6

3 cbt

1½ Salicylate Magnesia 5 medium powd bent grains chewed down somewhat rolled fat and fair well crushed & combined

600 mg Chl Hy

Went to powder but to slightly sticky + took 20 minutes to get it to coarse ball powder —

Squints fair. There comes lumps about 3 times in whole — The fils are the finest we have. Even, glassy + scarcely any specs — no crinkling

used very little heat, they are however very sticky so those taken over fingers stick together. Hard to get on stick + dry afterwards Grind on glass — they are tough at first at least very little puff when dry. going try 400 chalky instead of 600 see if can get it dry. Eventually Sally Mag dont Crystalyze on drying hence the sticky + fine polish

Actually Exploded
Heated —

152 -

3 Cbt
1½ Salicylate Magnesium
400 mg Chl Hydrate

gorsto powder but it
little sticky got it
to powder but not fine
powder just micro balls
very little heat just
Enough to polish squish
perfect without a hitch
this perfect shine glass

very few specs, seem to be even + perfect no kink. —

as 400 is just as sticky as 600 we are going to try 200. Cheeky — fels are little sticky as coming out so caught them in bamboo straight & bent after comes out glass no heat in bender

The fibs are all actually melted =

153

3 Cbt
1 ½ Salicylate Magnesium
200 mg Chloral Hy

goes to powder but slightly sticky but not so much as 400 Chetty goes less sticky as Chetty diminishes the powder is finer than 400 but there are some micro balls —
Squirts fine — fibs not sticky — Brittle when dry don't know if Chem can get away to Cbz

as I took them over a Splint + they bend badly (re) Grille, may break — They have more specs than 40s my impression is that 40s will be found to be the best with 3 Cbt 1/2 Salymag —

~~154~~

3 CBT Notes!

1 Salicylate Stranlia

500 mg Chloral Hy

Ng wont segment walter

in it or its due to

fract. Salty Crystalyzis

[illegible] all cracked [illegible]
but where detached
fil. good showing that
[illegible] drying(?)
62 OK -

154 [illegible] 748
3 CBF are all cracked + Rough
1 Salycilate Lithia clear very rough ing
500 mg Chloty

yeast sticky powder
impossible get at fine
it so tough sticky -
Lumps - + 1/8 dia
Caicdut get at fine
but grow + dull
segment OK

Squirts absolutely perfect
feels perfect - glass
puffs much on pan
slightly sticky hard
to see them on stick

Badly shrunk + puffed
package with Vanblaten
straight processing C6z.
but seems to be extra tendency
to smear + pi 36 =

155 Pichia 9410 NG www dot

3 Carbonate
1 1/2 Salycylate Zinc
500 mg Chl Hy

goes to powder better.
than 154 not very
- sticky powder not
fine say 60 mesh,

Squints OK specs
blurry glass
not sticky =

Clotimazole Mallard

156 11412

3 Cbt
3 Salycylate Mitaquinone
750 Chl Hy

goes to powder ok - not sticky

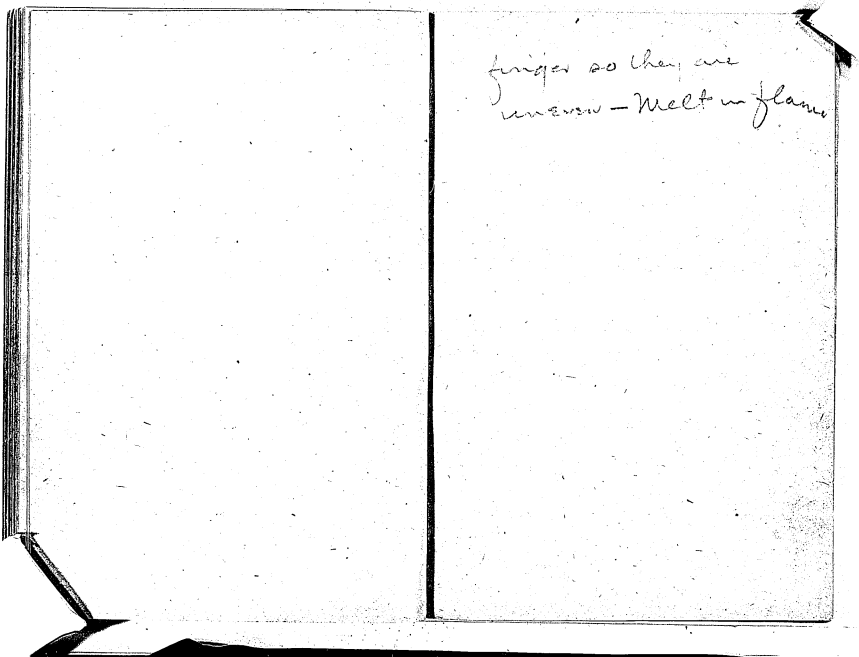
Agents perfect fuls even + perfect very little heat ful not shiny only a little shiny more shiny than lampblack, very little puff right in flame — large ash —

actually worked

157.

3 of Arthur Roth powders
fmle
1 1/2 Salycylate Mag
500 mg Chl Hy

dissed excess alcohol -
all dissolved - got it thick
viscous but thin - had to
gather in pestle + rinse
over flame with pestle
+ spatula, then it -
powdered ok -
Sgments ok but precog in
it - shiny slo but
very brittle shrunk on


fingers so they are
unseen — Melt in flame

Wed

4 Indulone with arsenic
750 mg Chl Hy
in Mal –

Works fairly well
but too Lumpy and
waking Some arsenic
Indulon – Gravalone
& will try again –

158

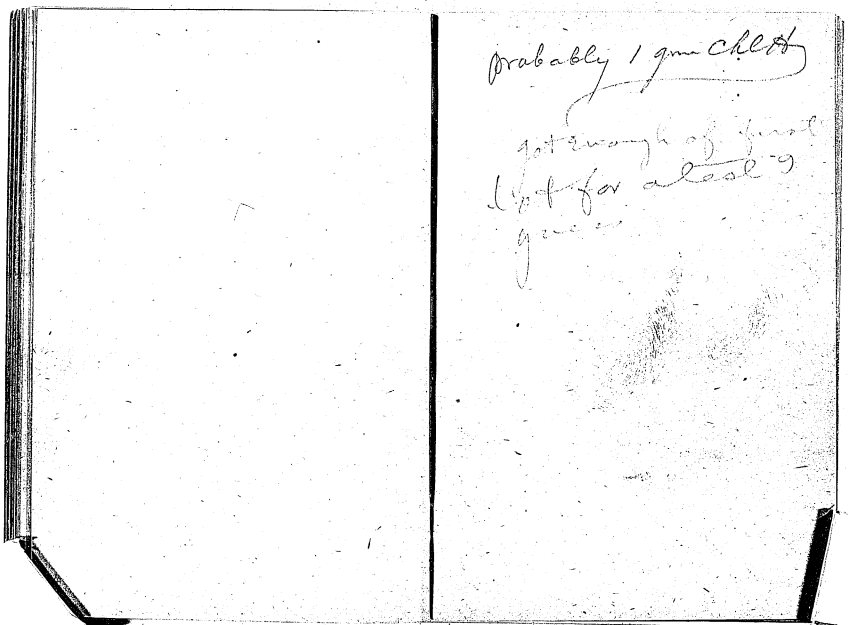
3 Indulin arsenic free
3 Salycilate Magnesium
500 mg Chl Hy
all dissolved in Dipi
it now 2 hours – 9
only got it cheesed
& put out to dry
then ungaled & sheeted
over flame half hour
then put wet on
drush for over night

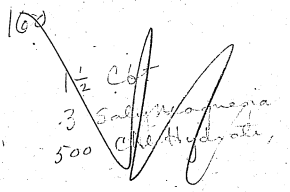
in warming dry as
brittle although had
been over it got it
to powder (fine) but
on trying it on spoon
it melts & puffs. dread
to have put powder
over to dry in watch
glass under it will
only slightly puff
in platina spoon

159—

4 Arsenic Indulin
grs alone grs xxx
750 Chetty—
Mad

at first squeals & goes
fib shies some spec
& little kendang
Gradlon finally some
Chem change took place
& while fits good they
were so brittle wldnt
hold down weight
broke off short must use
Lind be too much stuff


probably 1 gm Chl
got enough of band
left for about 9
more


10
1½ Cdt
3
500

160

6 Cbt
2 Chl Hydrate
10 cc of Sol of Acetate Mag
in Lukewarm Methyl al for
12 hours -

got to dry powder split it in
two parts first part Too
rough drage Mg- 2nd part
deeper, still not got then
took 1st mgot Upowdered &
dried in Oven, as all the
Chlthy poly went off w/dist
aquat, 2nd mgot Upowdered
& when powered powred
Ether on powder this
precepitate acetate Mag

got it from dry but it
went to dark powder
not yellowish -
the films are fairly good
shiny agents perfect,
there are specs in them
think of Ether had been
more & allowed soak
longer it would have
gone in particles &
thoroughly precip the
acetate & stopped the
drag - the acetate
when evap. down goes to
a syrup & finally to a
sticky lemon

gum - & this what
makes the drag -

Its probable a good
deal of Chloroform went
off so I'm going to
make a fresh batch
& precipitate thoroughly

Medea - 3 hour prelim
to dull red - surface
very bad, slightly puffed
in places fine longitudinal
splits - Watstuck together
& noticed these fils even split
longer in water & with even

161.

6 Cbt
2 Chetty
10 cc sod acetate Mag
same as 160 –

2 put the 10 cc acetate in first + ground to powder + apparently dry then put it in Oven + dried it still further until it was quite dry + yellow – then added the Chl + in 15 cc of Ether + worked to powder.

divided in two parts
1st part large die very
little heat, squirts
perfect fil. shiny &
perfect except fine specs
now & then —

2nd part is drier powder
having been in Mortar
25 minutes, Can smell
Chlty - we use a
small die —

Squirts perfect fils. shy
but has those specs in
not sticky
puffs very little in pan
ash large —

(probably) to dull red
3 hours - fils very
shiny - both 1st & 2nd
but smeared a little
giving hollow fils with
smear - also stuck together

(1a) 1st part but a little
slower they would not pull
quick. However there is

too much CHCHy showed
background to 1/2 the
amount. XC 161 method
of first purifying in ash
liquid mixing to dry
powder & recharging
using Ether as of
ChCHy is the right way
as 160 has miserable
surface while 161
has elegant surface
2nd grant being fine
dirt brake at loop

in CBz this shows
where fils are smashed
the ChCH captures whole
too much - must not
touch fils hereafter

162

6 Cbf

~~45 Cc~~

10 cc acetone mg

1 gm Chloroform

162 = mg

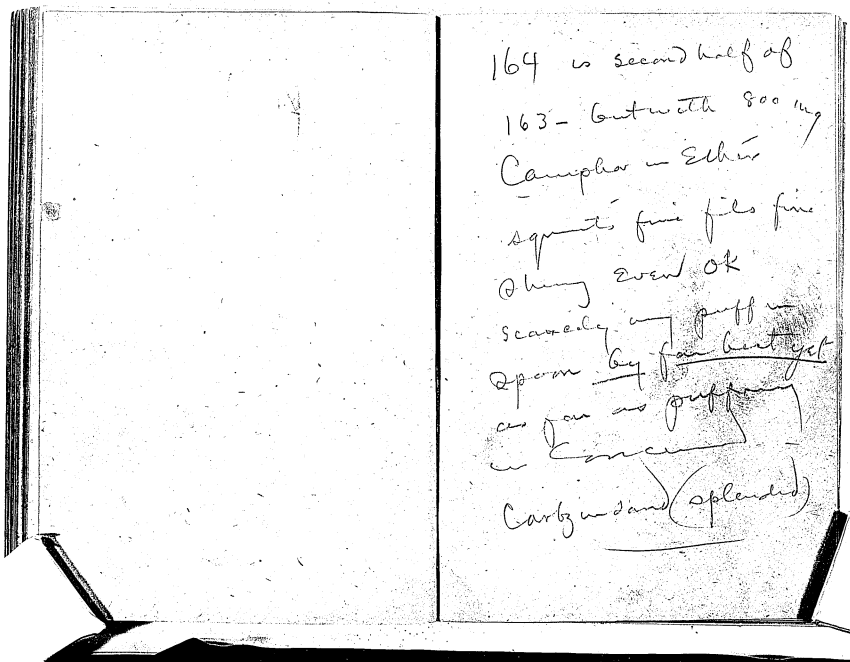
163

6 CbT

Then 10 cc of phenol and acetic
Magnesium Sal is precipitated
by Ammonia to jelly - This
is defatted with alcohol
& followed, (with washing)
with 3 or 4 times Bulk
alcohol, then the
jelly is dumped with 10 cc
alcohol & poured on CbT
& ground & very fine
after getting powder yellow
dried it - Water bath
½ hour - repowdered
& then dumped it

in two parts,
putting 1 gram chalky
to 3 cbt the chalky
using in Ether, get dry
powder —
squeeze fair but its
very sensitive to Crinkle
although the Crinkle fils
even look better than
Celloidin, need get only
1/8 thick of Cot mount
heat it gruffs the filament
badly = scarcely any
swelling in gum,
ash evenly distributed

fils shiny but specs
in + ~~time~~ not absolutely
perfect as could be observed
time to appear slow -


164 is second half of
163 - Gut with 800 mg
Camphor in Ether
Aqueous fine fils fine
Rhung Even OK
scarcely any puff in
Aperture by four hours yet
as four as puffs in
in Emerson
Carbyn and (splendid)

165

6 Cbt.

20 cc of standard Acetate Aluminum - precipated as in No 163 @ 164 - & washed same dividing in 2 parts first part 1 gram Camphor 2nd part —

put tabs Hbal with the Opal ff so stuff fully wet + spreading to

yellow powder fine then put it in water oven for 25 minutes and Repowdered & divided in two parts.

1st 1/2 put in 1 gram of Camphor in Ether got to powder squats oft but have to use strong heat. Before shine Comes Even with this heat dont puff. shews wants little more

Camphor -

The fils dont puff right in flame - end on fine - very Even no lumps big dia =

2nd pt,

Put in 1 1/2 gram Camphor, but it worked no better as regards shine in fact not so well - the dies have got to be smooth & not rough to soak.

with high ash =
The probability is that
15 cc Standard Sal
+ 1 Camphor will
be best with
One oath dicv —

166 —

6 pts Cbt.

40 cc of Cal) sat Sal
alin — water 4 hours
in bath with occas
l a ge [illegible] Co.

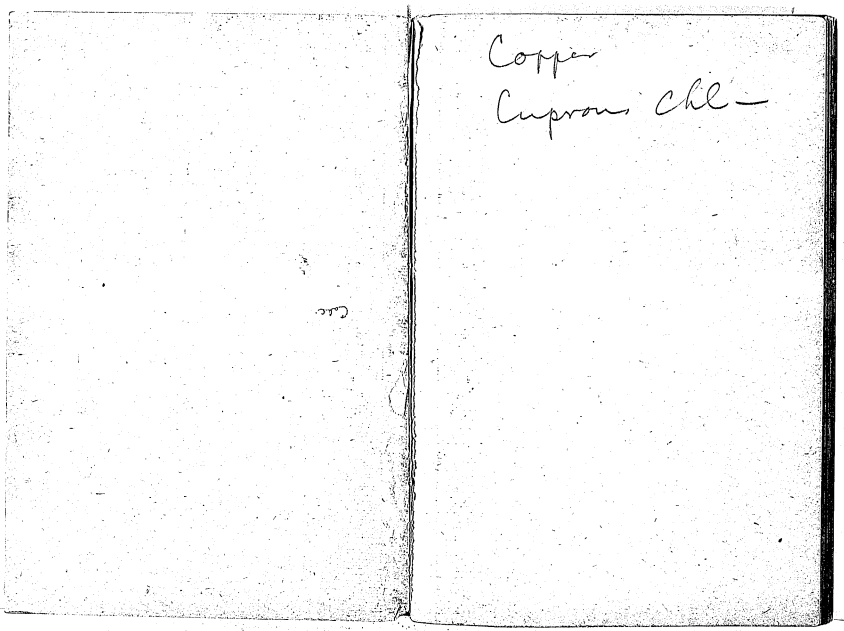
The 40 cc poured in breaker
3½ dia with 3/4" of
water + pp by ammonia
(5.22 cc) + (2 cc) 6 of 7
hours by (water + 3 hours
by Mal, then 1½" al
in small beaker including
the jelly brought to powder

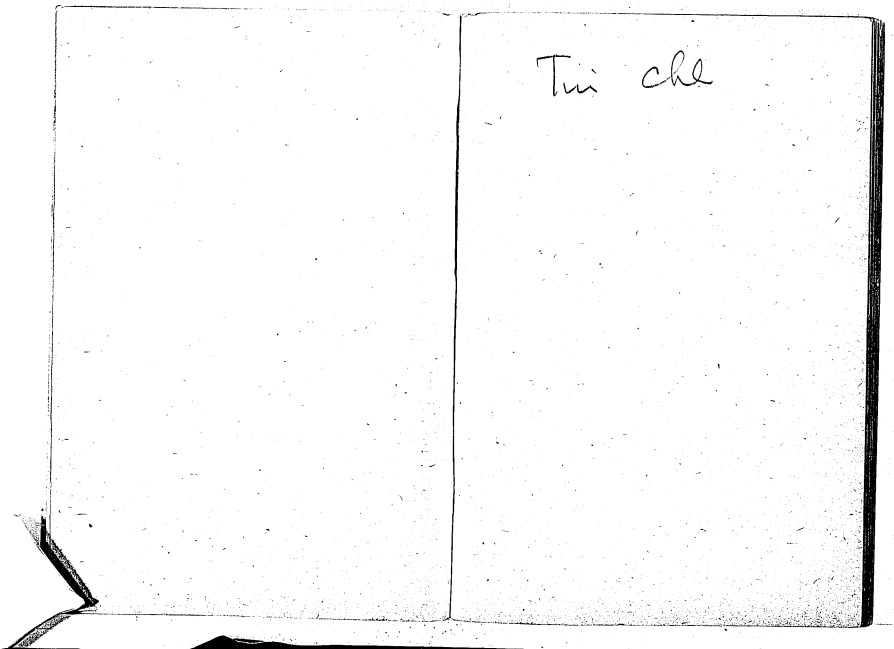
until Mag. smell gone
divided in 2 parts,

1st part. Weighed
2.590.
1 grm Camphor
Ether
Camphor has got five grains a bunch
Squint fine shiny 3 hours dry lids shiny
but flaws, shrunk
Squint fil. sent
stuck together in
Squint fine shiny stuck together
some flaws, if too much but pliable
heat puffs so I will
good End on puff some in
spoon but shiny in spoon

put in. 2nd part. 7.30
Mag. Camphor —
Squint fair. Lumps more
in while drops die also
Lumps show drag opals
at times — fils fairly
shiny - but great laminating
Crinkle - it was about 6a
practical this fil,
All 3 Mg isn't as good
as Mag —
3 hour Chrn all good but surface not
shiny - becoming not originally
do —.

[THIS BOOK WAS USED IN BOTH DIRECTIONS. THE FOLLOWING PAGES WERE FILMED FROM THE BACK END FORWARD.]




Tui chỉ